

Allocation, Availability and Maintenance of School Facilities as Correlate of Academic Performance of Senior Secondary School Students in Adamawa State, Nigeria

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Abstract

This study investigated school facilities allocation, availability and maintenance as correlate of academic performance of Senior Secondary School students in Adamawa State, Nigeria. Correlational research design was adopted for the study. A sample of 153 school principals and 377 teachers were randomly drawn from 248 senior secondary schools and 6,450 teachers respectively using proportionate sampling technique. Two questionnaires titled "School Facilities Planning and Allocation Questionnaire (SFAQ) and Management of School Facilities Questionnaire (MSFQ)", students' academic performance proforma and checklist were used for data collection. The reliability coefficient of SFAQ and MSFQ after validation was 0.82 and 0.76 respectively using Cronbach alpha. Mean scores, standard deviations and Pearson Product Moment Correlation Coefficient was used for answering the research questions and hypotheses. Allocative and maintenance efficiency of school facilities was found to be inefficient and efficient respectively. The Level of availability of school facilities was rated as not available and level of students' academic performance in WAEC/SSCE May/June 2013 – 2015 was found to be poor. The study revealed a significant relationship between school facilities allocative efficiency, availability, maintenance efficiency and students' academic performance in Adamawa State, Nigeria. The study recommended among others that government should adequately equip all Senior Secondary Schools in the State using appropriate procedures for facilities planning and allocation, school principals should frequently carry out comprehensive assessment of facilities in their schools to determine areas of need, and the Ministry of Education should promptly provide fund for the maintenance of school facilities as they receive report from schools.

Keyword: School Facilities, Allocation, Availability, Maintenance, Academic Performance

Introduction

Different kinds of problems ranging from mismanagement of allocated resources to declining standard of education are being experienced in the Nigerian education system (Olaniyan & Anthony, 2013). These according to Amuche, Amuche, Bello and Marwan (2014) result in dwindling performance of students in external examinations such as the Senior School Certificate Examinations (SSCE) organized by West African Examination Council (WAEC).

Public outcries about the poor maintenance of available school facilities in some secondary schools in Nigeria have yielded little or no result. School administrators seem not to show much effort in tackling the problems as evidenced by poor handling of the school facilities (Danjuma & Adeleye, 2015). This is why a casual visit to any public secondary school in Nigeria (Abah, 2016) reveals the extent to which these educational institutions have decayed. School facilities are in a terrible shape.

Reports from Owoeye and Yara (2011); Waweru and Orodho (2013) and Jackline and John (2014), have attempted to examine the relationship between allocation and maintenance of school facilities and students' academic performance and reveal rather good relationship. Effective maintenance of school facilities according to United Nations Educational, Scientific and Cultural Organization (UNESCO, 2006) is judged by the extent to which schools generally meet the expectations of the society within which they are established. These expectations are better seen in students' academic performance.

According to Saad (2010), lack of basic facilities and other related factors such as poor maintenance have been noted as some of the problems that cause poor students' academic performance in Nigeria and Adamawa State in Particular. Adamawa State comprises five education zones (Mubi, Gombi, Numan, Ganye and Yola). The academic performance of Senior Secondary School students in SSCE organized by WAEC in Adamawa State compared to other States in Nigeria has been very poor during the years under review (2013 – 2015) (Collins, 2015; Abah, 2016). The poor performance has made it difficult for majority of students to gain admissions into higher institutions of learning in recent times. For instance, Collins (2015) found that about 93% of senior secondary school leavers in any given year fail to qualify for university education in Adamawa State. The researcher reported that only 7.87% had 5 credits including English Language and Mathematics in 2013 ranking least (27th and 28th in 2014 and 2015) among other States whose students obtained 5 credit passes including English Language and Mathematics in Nigeria (Abah, 2016).

Despite the views of different writers, Saad (2014), Udonsa and Udonsa (2015) and Abubakar (2016), maintained that secondary schools in Adamawa State are generally ill-equipped for instruction; lack good seats and desks for students to write and are overcrowded. It is on this premise that this work investigated the allocation, availability and maintenance efficiency of school facilities as correlate of academic performance of Senior Secondary Schools students in Adamawa State, Nigeria.

Statement of the Problem

Poor allocation and maintenance of educational facilities has been examined by educationists (Badau, 2010; Danjuma & Adeleye, 2015; Neji & Nuoha, 2015) in the different States of Nigeria and concluded that States have not been able to plan, allocate and maintain educational facilities even where there is evidence of funding of capital projects. Senior secondary schools in Adamawa State face the combined challenges of deteriorating conditions, out-of-date design and administrative inefficiencies of educational resources (Saad, 2014; Abubakar, 2016). These combined deficiencies impair the quality of school management, curriculum delivery and students' academic performance.

Auta (2012) opined that lack of adequate facilities result in depression in the student's academic programme and waste of resources. The situation actually tends towards threatening the future of the State. The reports of surveys (Eguridu, 2012; Anaba, 2013; National Bureau of Statistics, 2014; Udonsa & Udonsa, 2015)), pointed to the poor performance of students in Adamawa States, Nigeria and was largely attributed to poor management of school facilities. It was against this background that this study sought to determine the basis for school facilities allocation, availability and maintenance efficiency as correlates of academic performance of senior secondary school students in Adamawa State, Nigeria.

Theoretical Framework

This study is based on Yutchman and Seashore's (1967) System Resource Theory of Organizational Effectiveness. The theory states that, an organization is said to be effective when it has the ability to secure an advantageous bargaining position in its environment and capitalize on that position to acquire, judiciously distribute, and monitor utilization of scarce resources. The theory viewed an organization such as schools as open systems which can be resourceful when it is able to adequately acquire, rationally distribute, efficiently utilize and regularly maintain scarce resources in implementing its programmes. Since the effectiveness of an organization is measured in terms of its capability to acquire resources, utilize and maintain them in achieving the organizations objectives, Yutchman and Seashore (1967) system resource theory of organizational effectiveness is relevant to this study.

Research Questions

1. What is the level of school facilities allocative efficiency in Senior Secondary Schools of Adamawa State, Nigeria?
2. What is the level of availability of school facilities allocated to Senior Secondary Schools in Adamawa State, Nigeria?
3. What is the level of school facilities maintenance efficiency in Senior Secondary Schools of Adamawa State, Nigeria?
4. What is the level of senior secondary school students’ academic performance in Adamawa State, Nigeria?

Research Hypotheses

1. There is no significant relationship between the level of school facilities allocative efficiency and academic performance of senior secondary school students in Adamawa State, Nigeria;
2. There is no significant relationship between the level of school facilities availability and academic performance of senior secondary school students in Adamawa State, Nigeria; and
3. There is no significant relationship between the level of school facilities maintenance efficiency and academic performance of senior secondary school students in Adamawa State, Nigeria;

Methodology

Correlational research design was adopted for the study. The study was carried out using all the public Senior Secondary Schools in Adamawa State, Nigeria (9°20’N 12°30’E). The target population for this study was 6,717 consisting of nineteen (19) staff of Adamawa State Ministry of Education Planning Division, 248 school principals and 6,450 teachers of all the Senior Secondary Schools in the five education zone. 549, made up of 19 staff of Adamawa State Ministry of Education planning division, 153 school principals and 377 teachers was sampled for the study. Four research instruments titled School Facilities Allocation Questionnaire (SFAQ), Management of School Facilities Questionnaire (MSFQ), Checklist and students’ academic performance proforma structured on a four-point response scale. The reliability coefficient for the two questionnaires (SFAQ and MSFQ) was 0.82 and 0.76 respectively. Mean scores and standard deviation was used to answer research questions. Pearson Product Moment Correlation Coefficient (r) was used for testing the null hypotheses. The decision for the research questions were based on the upper limit of 2.50. This implies that any grand mean above or equal to 2.50 was accepted to indicate efficiency and pass mark for students’ academic performance. The decision taken on the null hypotheses was based on comparing the computed p-values against 0.05 level of significance.

Research Question One: What is the level of school facilities allocative efficiency in Senior Secondary Schools of Adamawa State, Nigeria?

Table 1: Summary of Means and Standard Deviations of School Facilities Level of Efficiency in Senior Secondary Schools of Adamawa State

S/N	Items	n	VE	E	ME	NE	\bar{x}	s	Remark
1	Collective decision of the stakeholders in the school community	172	32	56	77	07	2.47	0.84	NE
2	School’s enrolment	172	19	112	34	07	2.30	0.72	NE
3	Critical needs of the schools	172	41	63	61	07	2.42	0.90	NE
4	School location	172	08	102	53	09	2.44	0.67	NE
5	The school’s performance in Senior School Certificate Examination (SSCE)	172	25	36	103	08	2.63	0.79	E
6	Number of subjects offered by students in the school	172	36	53	81	02	2.45	0.83	NE

7	Number of teachers in the school	172	22	30	113	07	2.74	0.73	E
8	Status of the school	172	24	96	52	00	2.13	0.63	NE
9	Schools' supervision report	172	19	99	39	15	2.44	0.80	NE
Grand Mean							2.45	0.77	NE

Result of analysis in Table 2 shows the mean and standard deviation of items on bases for allocating school facilities to senior secondary schools in Adamawa State. The grand mean of 2.45 and standard deviation 0.77 indicates that the basis used for allocating school facilities to senior secondary schools in Adamawa State is not efficient.

Research Question Two: What is the level of school facilities maintenance efficiency in Adamawa State Senior Secondary Schools?

Table 2: Summary of Means and Standard Deviations of School Facilities Level of Maintenance Efficiency in Adamawa State Senior Secondary Schools

S/N	Items	n	VE	E	ME	NE	\bar{x}	s	Remark
10	Cracks on buildings are repaired immediately after discovery	530	69	95	253	113	2.78	0.93	E
11	Broken furniture (chairs or tables) are quickly repaired	530	130	143	145	112	2.45	1.08	NE
12	Laboratory equipment are often cleaned to protect them from damage	530	49	139	190	152	2.84	0.95	E
13	School generator(s) are serviced regularly	530	54	100	224	152	2.89	0.94	E
14	School computers are regularly serviced	530	40	94	324	72	2.81	0.76	E
15	Preventive maintenance is carried out on school buildings	530	124	148	160	98	2.43	1.04	NE
16	Preventive maintenance is carried out on school equipment to avoid total breakdown	530	54	161	204	111	2.70	0.91	E
17	School buildings repairing are not delayed until they become worst	530	44	100	252	134	2.90	0.87	E
18	School equipment servicing are not delayed until they breakdown	530	44	100	251	135	2.90	0.88	E
19	The last time major school facilities repair was done in our school was more than 3 years	530	60	56	145	269	3.18	1.02	E
Grand Mean							2.79	0.94	E

Table 4 shows the mean and standard deviation of items on level of school facilities maintenance efficiency in Adamawa State senior secondary schools. The grand mean of 2.79 and standard deviation of 0.94 indicates that the level of school facilities maintenance by school administrators in Adamawa State senior secondary school is efficient.

Research Question Three: What is the level of availability of school facilities allocated to Senior Secondary Schools in Adamawa State, Nigeria?

Table 3: Summary of Mean and Standard Deviation of School Facilities Availability in Adamawa State Senior Secondary Schools

FACILITIES	n	VHA	HA	MA	NA	\bar{x}	s	Remark
Site facilities	530	127.14	67.57	140	195.29	2.24	1.03	NA
Academic Facilities	530	112.50	68.44	70.28	278.11	2.03	0.93	NA
School Furniture	530	114.43	90.86	138.14	186.57	2.25	1.09	NA
Sports Facilities	530	43.00	46.57	100.29	340.14	1.61	0.73	NA
Annex Facilities	530	27.63	39.13	90.88	372.38	1.48	0.78	NA
Administrative Facilities	530	56.60	76.60	159.40	235.40	1.93	0.84	
Grand Mean						1.92	0.90	NA

Table 3 shows the means and standard deviations of items on availability of school facilities allocated to senior secondary schools in Adamawa State. The grand mean of 1.92 and standard deviation 0.90 indicates that school facilities are not available in Adamawa State senior secondary schools.

Research Question 4: What is the level of students' academic performance in Adamawa State senior secondary schools?

Table 4: Summary of Means and Standard Deviations of Students' Academic Performance in WAEC/SSCE May/June 2013 – 2015 in Adamawa State Senior Secondary Schools

Year	N	A1 – B3	C4 – C6	P7 – P8	F9	\bar{x}	s	Remark
2013	5,935	351	1,754	1,565	2,265	2.27	0.64	Poor
2014	6,626	708	3,067	921	1,930	1.93	0.72	Poor
2015	4,435	844	408	862	2,321	2.32	0.89	Poor
Grand Mean						2.12	0.75	Poor

Table 4 shows the means and standard deviations of students' academic performance in 2013 – 2015 WAEC/SSCE in Adamawa State senior secondary schools. The grand mean of 2.12 and standard deviation of 0.75 indicates that students' academic performance was poor.

HYPOTHESE TESTING

Ho₁: There is no significant relationship between school facilities allocative efficiency and academic performance of senior secondary school students in Adamawa State, Nigeria.

Table 5: Summary of Pearson Product Moment Correlation Coefficient Level of School Facilities Allocative Efficiency and Students' Academic Performance

Variables	n	\bar{x}	r	p-value	Relationship	Remark
LSFAE	172	2.45	0.195	0.000	Low	Significant
LSAP	172	2.12				

Analysis in Table 5 shows that there was a significant low positive relationship between school facilities allocative efficiency and students' academic performance in Adamawa State senior secondary schools since p-value (0.000) is less than 0.05 the null hypotheses was rejected.

Ho₂: There is no significant relationship between the level of school facilities availability and academic performance of senior secondary school students in Adamawa State, Nigeria.

Table 6: Summary of Pearson Product Moment Correlation Coefficient level of school facilities availability and students' academic performance

Variables	n	\bar{x}	r	p-value	Relationship	Remark
LSFA	530	1.93	0.085	0.000	Low	Significant
LSAP	530	2.12				

Since the p-value (0.000) is less than 0.05 level of significance, the null hypothesis was rejected. The computed r-value - 0.085 indicates that there was a significant low positive relation between the level of school facilities availability and students' academic performance in Adamawa State senior secondary schools.

Ho₃: There is no significant relationship between level of school facilities maintenance efficiency and academic performance of senior secondary school students in Adamawa State.

Table 7: Summary of Pearson Product Moment Correlation Coefficient level of school facilities maintenance efficiency and students' academic performance

Variables	n	\bar{x}	r	p-value	Relationship	Remark
LSFME	530	2.79	0.260	0.000	Low	Significant
LSAP	530	2.12				

The result in Table 6 shows that there was a low positive relationship between school facilities maintenance efficiency and senior secondary school students' academic performance in Adamawa State. Since the p-value (0.000) is less than 0.05 and the computed r-value - 0.260, the null hypothesis was rejected.

Discussion of the Findings

The findings of this study were discussed in relation to the basis for allocating school facilities, availability and maintenance efficiency as correlates of students' academic performance raised in the study. The findings from Table 1 revealed that the basis for allocating school facilities to Senior Secondary Schools were not efficient in Adamawa State as indicated by the grand mean (2.45) and standard deviation (0.77) of the items (1 – 9). This finding contrast Alabi (2014), Neji, Ukwetang and Nja (2014) and World Bank (2016) report, which suggested that school facilities should be allocated to schools based on the effectiveness of public programs in schools that meet strategic educational objectives. It entails the capacity of authorities concern to shift scarce resources from old priorities to new ones, and from less to more effective school programs. In support of this finding, Ajayi and Yusuf (2009) revealed that learning facilities must be accessible to all regardless of any criterion and made available to the physical and emotional well being of all learners.

Table 2 shows that the basis for allocating facilities to Senior Secondary Schools in Adamawa State has not made school facilities available as indicated by the grand mean (1.92) and standard deviation (0.90). This study is consistent with Saad (2010) and Abubakar (2016) who reported that, site facilities like land for future expansion, academic facilities like Laboratories and relevant textbooks are rated not available by the respondents. The findings, therefore, confirm the submission of the Chairman of the National Task Force on implementation of Educational Policy (6-3-3-4) that what we have today as schools apart from Federal Government colleges are 'barren' schools which lack the bare necessities and as such the students are not getting enough good education (Adedeji in Owoeye & Yara, 2011). Aka (2005) equally reported the situation to be the same in the western Nigeria.

The findings from this study revealed the level of school facilities maintenance in Adamawa State senior secondary school to be efficient (Table 3). This was indicated by the grand mean (2.79) and standard deviation (0.94) on all items 10 – 19. Supporting the report from this study Vandiver (2011) and SchoolDude (2014) revealed that continuous existence and utilization of school facilities can only be achieved through quick and regular servicing and repairing of broken down facilities through preventive maintenance. On the contrary in Adamawa State, Allen (2015) revealed that management of school facilities through maintenance in secondary

schools has not being achieved and as a result schools have failed to achieve its intended objectives nowadays because facilities are not serviced or repaired promptly until they become worst or broke down in Nigeria.

The level of students' academic performance in WAEC/SSCE May/June (2013 – 2015) in Adamawa State Senior Secondary Schools (Table 4) was poor as indicated by the grand mean and standard deviation 2.12 ± 0.75 respectively. This finding is consistent with Anaba (2013) and Collins (2015) conclusions that the level of students' academic performance in Adamawa State senior secondary school was poor. In support of this finding Collins (2015) revealed that about 93% of senior secondary school leavers in any given year have fail to qualify for tertiary education in Adamawa State.

Hypothesis one (Table 5) indicate that there was a statistical significant relationship between level of school facilities allocative efficiency and students' academic performance in Adamawa State Senior Secondary Schools. This shows that allocating school facilities to senior secondary schools in Adamawa State based on some criteria like students' performance in external examinations (WAEC/SSCE), number of teachers and/or school's enrolment are fairly related to students' academic performance. In support of this finding, Okafor (2000), Duran-Naruck (2008) , Okoroma and Enyoghasim (2012) revealed that inefficient distribution of school facilities to schools results in either under-utilization or over-utilization which does not enhance effective academic performance.

Table 6 (Hypothesis two) shows that, there was a significant low positive relationship between level of availability of school facilities and students' academic performance in Adamawa State senior secondary schools ($r = 1.93, p < 0.05$). The findings also agreed with the findings of Othman and Musyoka (2014) that linked the decline in students' academic performance with non-availability of teaching materials, non- availability of class rooms, libraries and laboratories, among others. The findings also lend credence to the submission of Owoeye and Yara (2011); Bizimana and Rodho (2014); Danjuma and Adeleye (2015) that items like books, teaching aids and educational materials were not only unavailable in secondary schools but those available were grossly insufficient, over utilized and poorly managed. They concluded that such situation would result in sharp decline in students' academic performance in external examinations. The findings of this study regarding significant relationship between availability of school facilities and students' academic performance have a link with the findings of Oduwaiye, Sofoluwe and Kayode (2012) and Danjuma & Adeleye, 2015).

The findings in respect of hypothesis 3 (Table 7) revealed significantly low positive relationship between level of school facilities maintenance efficiency and students' academic performance in Adamawa State Senior Secondary Schools. Efficient school facilities maintenance according to Edward (2012) is a precondition for strong academic program and students' performance. This shows that prompt repairing of broken walls, chairs, tables and regular servicing of equipment as a proactive measure to sustain the life-span of school facilities are related to students' academic performance in Adamawa State. Uchendu, Ekanem and Jonah (2013) revealed that poor school facilities maintenance are indicated by either poor physical appearance, untidy walls, leaking roofs, overgrown compounds etc of a school, which suggests that education within the buildings follow the same pattern. The finding is consistent with Liar (2003) and Odigwe and Eluwa (2013) findings, that revealed a positive relationship between school facilities maintenance and students' academic performance.

Recommendation

The following recommendations based on the findings of the study and their implications are made:

1. Appropriate and efficient procedures for allocating school facilities to Senior Secondary Schools should be developed by the planning division of the Ministry of Education and it should be followed strictly when allocating school facilities;
2. School principals should frequently carry out comprehensive assessment of the facilities in their schools to determine areas of need. This type of assessment will assist the planning division of Ministry of Education in policy formulation as it relates to facility management in Senior Secondary Schools;
3. School principals should encourage teachers to improvise teaching aids not supplied by government to improve academic performance among the students in their respective schools;
4. All Senior Secondary Schools to start income-generating activities and form organizations for old students to help raise funds to subsidize the government funding.
5. Senior Secondary Schools in Adamawa State should be provided with functional libraries, equipped with current reading materials to help enhance both the students' academic performance and the teachers' effectiveness in academic activities in the school.

REFERENCES

- Abubakar, B. (2016). Review of administrative efficiency and effectiveness and secondary school students' academic achievement in Adamawa State, Nigeria. *Journal of Academic Research in Humanities*, 2(1), 211 – 219.
- Abah, D. (2016). Accessibility and utilization of school infrastructure secondary schools students' performance in SSCE in Calabar education zone of Cross River State, Nigeria. *Global Journal of Human Social Science*, 15(8), 1 – 13.
- Ajayi, I. A. & Yusuf, M. A. (2009). Instructional space planning and students' academic performance in South West Nigeria secondary schools. *International Journal of Education Science*, 1(2), 73 – 77.
- Aka, F. I. (2005). *Availability and utilization of school facilities as correlate of students' academic performance in secondary schools in Enugu Education Zone*. An Unpublished M.Ed. Thesis, University of Nigeria, Nsukka. P. 46.
- Alabi, B. O. (2014). Quality assessment of school facilities in Lagos State. Retrieved from lasusterg.okebsf.org/author/admin/.../2/ on 19th April, 2016.
- Allen, A. A. (2015). Effective school management and supervision: Imperative for quality education service delivery. *African education Review*, 9(3), 62-74
- Amuche, C. I., Amuche, B., Bello, A. & Marwan, M. B. (2014). A correlational analysis of private and public secondary school students' performance in WAEC and NECO conducted physics examinations. *International Journal of Education and Research*, 2(10), 407 – 416.
- Anaba, A. (2013). Special Report: 64.26% credit pass in WAEC? Madam Minister, we need to reconsider this 'miracle'. Retrieved on 3rd/01/2017 from www.thescoopng.com/.../special-report-6...
- Autu, V. M. (2012). Role of the head teacher in academic achievement in secondary schools. *Journal of Social Sciences*, 1(3), 84 – 92.
- Aworanti, B. N. (2016). The quality of Learning environment and academic performance from a student's perception. *International Journal of Business and Management*, 4(6), 171 – 175.
- Badau, K. M. (2010). *The appraisal of education project management cycle technique on the management of education projects in secondary schools in north eastern Nigeria*. PhD Dissertation Federal University of Technology, Yola, Adamawa State, Nigeria.

- Bizimana, B. & Orodho, J. A. (2014). Teaching and learning resource availability and teachers' effective classroom management and content delivery in secondary Schools in Huye District, Rwanda. *Journal of Education and Practice*, 5(9), 111 – 122.
- Collins, S. D. (2015). School size and facilities as a correlate of secondary school students' performance in Adamawa State, Nigeria. *Pakistan Journal of Social Sciences*, 5(9), 836 – 840.
- Danjuma, T. T. & Adeleye, M. O. (2015). The effect of the availability and utilization of laboratory apparatus in the teaching of physics: A case study of secondary schools in Karu LGA. *Nigeria Research Journal of Educational Studies and Review*, 1(5), 118 – 122.
- Duran-Narucki, V. (2008). School building condition, school attendance, and academic achievement in New York city public schools: A mediation model. *Journal of Environmental Psychology*, 28(3), 278 - 286.
- Edwards, M. M. (2012). *Building conditions, parental involvement and student achievement in the D.C. public school system*. Master Thesis, Georgetown University, Washington, D.C. P. 264.
- Eguridu, C. (2015). 2015 WASSCE: WAEC decries mass failure, threatens to withhold results. Retrieved on 16th/09/2016 from [https://www.channelstv.com/.../2015- ...](https://www.channelstv.com/.../2015-...)
- Jackline, T. N. & John, A. O. (2014). School management and students' academic Performance: How effective are strategies being employed by school managers in secondary schools in Embu North District, Embu County, Kenya? *International Journal of Humanities and Social Science*, 4(9), 86 – 99.
- Lair, S. B. (2003). *A study of the effect school facility conditions have on student achievement*. An Unpublished PhD Dissertation, University of Texas, U.S.A. p. 19 – 21.
- Leedy, P. D. & Ormrod, J. E. (2010). *Practical research: Planning and design*. 9th Edition. New York: Pearson Education, Inc.
- National Bureau of Statistics (2014). *Building code*. Retrieved on 23rd July, 2016 from www.nigeriastat.gov.ng/.../
- Neji, H. A. & Nuoha, C. O. (2015). Utilization of laboratory facilities and students' academic performance of chemistry students in Calabar, Nigeria. *Chemistry and Materials Research*, 7(3), 57 – 62.
- Odigwe, F. N. & Eluwa, I. O. (2013). Appraising the state of maintenance and management of available secondary school facilities on students' academic performance in Cross River State, Nigeria. *Journal of Education and Practice*, 4(24), 101 – 106.
- Oduwaiye, R. O., Sofoluwe, A. O. & Kayode, D. J. (2012). Total quality management and students' academic performance in Ilorin metropolis secondary schools, Nigeria. *Asian Journal of Management Sciences and Education*, 1, (1), 141 – 152.
- Okafor, P. N. (2000). Difficult concepts in physics as experienced by senior secondary students in Akwa-Ibom State. *Journal of Research Information in Education*, 1(1), 114 – 121.
- Okoroma, S. & Enyoghasim, M. (2012). Urban and rural areas distribution of facilities and teachers of secondary schools: Implications for students' academic performance. *International Journal of Research and Advancement in Educational Methods*, 9(1), 97 – 107.
- Olaniyan, O. D. & Anthony, K. I. (2013). Effect of inadequate school plant on academic performance of Nigerian secondary school students. *International Journal of Humanities and Management Sciences*, 1(3), 198 – 200.
- Owoeye, J. S & Yara, P. O. (2011). School facilities and academic achievement of secondary school agricultural science in Ekiti State, Nigeria. *Asian Social Science*, 7(7), 64 – 74.

- Saad, A. R. (2010). Educational quality differences in Adamawa State: The urban-rural gap in secondary schools. *International Journal of Research and Practice*, 24(1), 1 – 18.
- Saad, A. R. (2014). Evaluation of provision and maintenance of infrastructural facilities in boarding secondary schools in Yola metropolis Adamawa State, Nigeria. An Unpublished M.Ed. Thesis, Ahmadu Bello University, Zaria. P. 12.
- SchoolDude (2014). Preventive maintenance: improving facilities conditions and decreasing deferred maintenance. P. 4. Retrieved on 16th February, 2016 from <https://www.schooldude.co...>
- Uchendu C. C., Ekanem, E. E. & Jonah, S. T. (2013). Resource maintenance for the provision of educational services in public and private secondary schools in Rivers State, Nigeria. *European Journal of Business and Social Sciences*, 2(1), 15 – 23.
- Udonsa, A. E. & Udonsa, C. (2015). Gender disparity in Mathematics performance among secondary school students in Adamawa State, Nigeria. *Journal of Sociology, Psychology and Anthropology in Practice*, 7(1), 49 – 56.
- United Nations Educational, Scientific and Cultural Organization (UNESCO, 2006). *EFA global monitoring report: Strong foundations. Early childhood care and education*. Paris: UNESCO Publishing.
- Vandiver, B. (2011). The Impact of School facilities on the Learning Environment. An Unpublished Doctoral Dissertation, Capella University. Retrieved from <http://www.proquest.com/en-US/products/dissertations/individuals.shtml> on 31st/12/2016.
- Waweru, P. N. & Orodho, A. J. (2013). Management practices and students academic performance in national examinations in public secondary schools in Kiambu County. *International Journal of Scientific Research*, 5(2), 472 – 479.
- World Bank (2016). Chapter 4 Allocative Efficiency. Retrieved on 22nd/12/2016 from <siteresources.worldbank.org/INTPEAM/Resources/Chapter4.pdf>
- Yutchman, E. & Seashore, S. (1967). A system resource approach to organizational effectiveness. *American Sociological Review*, 32, 891 – 903.